

**Amendments to the Specification:**

Please replace paragraph [0001] with the following amended paragraph:

[0001] This application claims the benefit of a previously filed U.S. Provisional Patent Application No. 60/455,157 filed on March 14, 2003, and entitled "EFFICIENT SUBCARRIER WEIGHTING TO ENHANCE RECEIVER PERFORMANCE" and is a continuation-in-part of my U.S. Patent Application No. [[ ]] 10/782,276 filed on February 18, 2004 and entitled "EFFICIENT SUBCARRIER WEIGHTING TO ENHANCE RECEIVER PERFORMANCE".

Please replace paragraph [0032] with the following amended paragraph:

[0032] Metric weights are discussed in more detail in the U.S. Patent Application No. [[ ]] 10/782,276 filed on February 18, 2004 entitled "EFFICIENT SUBCARRIER WEIGHTING TO ENHANCE RECEIVER PERFORMANCE", the disclosure of which is herein incorporated by reference as though set forth in full.

Please replace paragraph [0060] with the following amended paragraph:

[[ ]]  $\underline{s}_{\text{demod/remod}}$  is the received signal after it has been demodulated and remodulated through the steps 210 – 226 and particularly at the output of the mapping step 226 of Fig. 4 and Signal  $\underline{r}_X$  is the actual received signal prior to remodulation/demodulation at the output of the step 206,  $\underline{L}_{-26,26}$  is the ideal estimated signal.

Please replace paragraph [0063] with the following amended paragraph:

[0063] In Fig. 5, the '[[ ]]  $\underline{\mu}$ 's represent the weighted metrics after they have been weighed by a weighting value equal to an equalizer coefficient. For example, [[ ]]  $\underline{\mu}_0 = m_0/\text{FEQ}(0)$  with  $m_0$  representing the first metric value and  $\text{FEQ}(0)$  representing component 0. [[ ]]  $\underline{\mu}_1 = m_1/\text{FEQ}(0)$ , [[ ]]  $\underline{\mu}_2 = m_2/\text{FEQ}(0)$ , ..., [[ ]]  $\underline{\mu}_5 = m_5/\text{FEQ}(0)$ , which all belong to the first sub-carrier or 'sc – 0'. As to the second sub-carrier, or 'sc – 1', [[ ]]  $\underline{\mu}_6 =$

$m_0/\text{FEQ}(1)$ ,  $[[\square]]_{\mu_7} = m_7/\text{FEQ}(1)$ , ...,  $[[\square]]_{\mu_{11}} = m_{11}/\text{FEQ}(1)$  and so on for all 288 metric weights. For the sub-carrier 'sc - 5', the frequency channel response is deeply faded, as seen by the first fade of the graph 300. Therefore, the integrity of the received bits or metric weights cannot be trusted, accordingly, when calculating  $[[\square]]_{\mu_{30}} = m_{30}/\text{FEQ}(5)$  and the rest of the ' $[[\square]]_{\mu}$ 's of that particular sub-carriers, the ' $[[\square]]_{\mu}$ 's are going to be close to zero because  $\text{FEQ}(5)$  is going to be a large number. Smaller  $[[\square]]_{\mu}$ -values will be counted less heavily in the Viterbi decoding process. The metric weights are divided by the magnitude of the equalizer coefficient. The output of the weighting block 37 of Fig. 1 are the weighted metrics ' $[[\square]]_{\mu}$ 's, which are then deinterleaved by the block 38 of Fig. 1 and ultimately depunctured by the de-puncturing block 40 of Fig. 1 to generate the encoded equalizer output. During puncturing, a number of data bits are removed in accordance with a known pattern and de-puncturing is to re-establish the pattern by placing back the removed data bits. Because the bit rate of the data or signal being received will be known, returning the missing data bits is possible. The weighting values need to be applied prior to the de-interleaving and de-puncturing operations so that the weighting process is simplified.

Please replace paragraph [0067] with the following amended paragraph:

[0067] The output of the weighting block 508 is the weighted metrics ' $[[\square]]_{\mu}$ 's discussed earlier, which are used by the de-interleaving block at 512. The output of the de-interleaving block 512 or the deinterleaved output is provided to the de-puncturing block 514 and the output of the de-puncturing block 514 or the encoded equalizer output is provided to the convolutional decoder 516. In one embodiment of the present invention, the convolutional decoder 516 is a Viterbi decoder.